

FIG. 1

cvHAS	MG--KNIIIM	VSWYTIITS-	-----NL	IAVGGASLI	APAITGV	VHLH	39
seHAS	MRTLKKNLIT-	-----	-----V	VAFSIFWVL	I-----	VNV	25
sphAS	VPIFKKTLI-	-----	-----V	LSFIFLISI	I-----	LLNM	25
huHAS	MHCERFLCIL	RI---IGTTL	-----	-----FGVSL	LGITAAI	IVG	33
xlHAS	MK-EKAAETM	EIPEGIPKDL	EPKHPTLWRI	IYYSFGVVL	ATITAAI	VAE	49
cvHAS	WNIALST--I	WGVSAIGIFV	FGFFLAQVLF	SELNRKRLRK	WISLRPKGWN		87
seHAS	YLFGAGK---	-SLSIGELL	IAYLLVKMSL	SFF-YKPFKG	R---AGQ--Y		65
sphAS	YLFGT-S---	-TVGIQVIL	ITYLVIKLGL	SFL-YEPFKG	N---PHD--Y		64
huHAS	YQFIQTDNYY	FSFGLYGAF	ASHLIIQSLF	AFLEHRKMKK	SLETPIK--L		81
xlHAS	FQVLKHEAIL	FSLGLYGLAM	LLHLMMSQLF	AFLEIRRVNK	S-ELPCS--F		96
cvHAS	DVRLVVIHAG	IREDPYMFQK	CHESVRDSY	GNVA-RLICV	IDGDEDDDMR		136
seHAS	K--VAIPIPS	ENEDAESLLE	TIKKVQQQT	PLAE--IYV	DDGSADEGTI		111
sphAS	K--VAIPIPS	ENEDAESLLE	TIKSVLAQT	PLSE--IYI	DDGSSNTDAI		110
huHAS	NKTVLCLHAA	QEDPDYLRK	CIQVVKRLT	PG--IKVVM	IDGNSEDDLY		129
xlHAS	KKTVALTHAG	QENPEYLIK	CHESCKYVK	PKDKLKIIL	IDGNTEDDAY		146
cvHAS	MAAVYKAIYN	DN-----	-----IKKPE	-----FV	LCESDDKEGE		165
seHAS	QR-----	---IEDYVRD	-----	TGDLSSNVIV	HRSEKNQGRK		140
sphAS	QL-----	---IEEYVNR	-----	EVDICRNVIV	HRSLVNKGKR		139
huHAS	MMDIFSEVMG	RDKSATYIWK	NNFHE-KGPG	ETDES-----	-----HKESS		168
xlHAS	MMEMFKDVFH	GEDVGTYYVK	GNYYHTVKKPF	ETNKGSCPEV	SKPLNEDEGI		196
cvHAS	RIDSDF---S	RDICVLPHR	GKRECLYTG	QLAKMDPSVN	AVVLDSDTV		212
seHAS	HA-----	---QAW--	-----A	E--RSDADV	FLTV--DSDY		163
sphAS	HA-----	---QAW--	-----A	E--RSDADV	FLTV--DSDY		162
huHAS	QHVTQLVLSN	KSICIMQKWG	GKREVMYTA	R--ALGRSDV	YVQVCDSDTM		216
xlHAS	NMVEELVRNK	RCVCIMQWQ	GKREVMYTA	Q--AIGTSVD	YVQVCDSDTK		244
cvHAS	LEKDAILEVV	YPLACDPEIQ	AVAGECKIWN	T-DTLLSLIV	AWRYSAECV		261
seHAS	IYPDALEELL	KTFNDPTVFA	ATG-HLNVRN	RQTNLLTRLT	DIRNDNAEGV		212
sphAS	IYPDALEELL	KSFNDETYYA	ATG-HLNAR	RQTNLLTRLT	DIRNDNAEGV		211
huHAS	LDPASSVEMV	KVLEEDPMVG	GVGGDVQILN	KYDSWISFSL	SVKWMANI		266
xlHAS	LDELATVEMV	KVLESNDMYG	AVGGDVRILN	PYDSFISFMS	SLKWMANV		294
cvHAS	ERSAQSFFRT	VQCVGCEPGA	XKIDIKEIK	DPWISORELG	QKCTYGDORR		311
seHAS	ERAAQSVTGN	ILVCSCELSV	YRREVVPNI	DRYINOTELG	IPVSIQDDRC		262
sphAS	ERAAQSLTGN	ILVCSCELSI	YRREVIIPNL	ERYKNOTELG	LPVSIQDDRC		261
huHAS	ERACQSYFGC	VQCISCEPLM	YRNSLLHEFV	EDWYNQEEEM	NQCSFGDDRH		316
xlHAS	ERACQSYFDC	VSCISCEPLM	YRNNLLQVFL	EAWYRKELC	TYCTLGDORH		344
cvHAS	LTNEILMRK	KVVFPTFAVG	WSDSTNVFR	YIVQOTRWS	SWCRBIWYTL		361
seHAS	LTNYATDLG	KTVYQSTAKC	ITDVEDKMST	YLKQONRWK	SFFRESIISV		311
sphAS	LTNYAIDLG	RTVYQSTARC	DTDVEFOLKS	YLKQONRWK	SFFRESIISV		310
huHAS	LTNRVLSLGY	ATKYTARSKC	LTETIEEYLR	WLNQOTRWS	SYFREWLYNA		366
xlHAS	LTNRVLSMGY	RTKYTHKSRA	FSETESLYLR	WLNQOTRWT	SYFREWLYNA		394
cvHAS	FAAWKHGLSG	INLAFECLYQ	ITYFFLVIYL	FSRLAVEADP	RAQTATVIVS		411
seHAS	KKIMNPNPFA	LNTILEVSMF	MMLVYSVVD	FVGNVREFDW	LRVLAFLVII		361
sphAS	KKILSNPIVA	LNTIFEVVMF	MMLIVAIGNL	LFNQAIQLDL	IKLFAFLSII		360
huHAS	MWFHKHH---	LMTYEAIIT	GFFPFLLIAT	VIQLFYRGLI	WNILLFLLTV		413
xlHAS	QWWHKHH---	IMTYESVVS	FIFPPFITAT	VIRLIYAGTI	WNVVWLLLCI		441
cvHAS	TTVAIKCGY	FSFRAKDIRA	FYFV-LYTFV	YFFCMIFARI	TAMMLWDIG		460
seHAS	FIVACRNH	YM--LKHPLS	FLLSPFYGVL	HLFVLOELKL	YSLFIRINAD		409
sphAS	FIVACRNH	YM--VKHPAS	FLLSPLYGIL	HLFVLOELKL	YSLCTIKNTE		408
huHAS	QLVGIKSS-	FASCLRGNI	MVMSLSVSL	YMSLLAKM	FAIATINKAG		462
xlHAS	QIMSIFKSI-	YACWLRGNFI	MLLMSLSML	YMTGLLESKY	FALLTLNKTG		490
cvHAS	NDIRGGNEKP	SVGTRVALWA	KQYLIAYMW	AAVVGAGVYS	IVHNWDFDWN		510
seHAS	NGT---RKK	L-----	-----	-----	-L*		417
sphAS	NGT---RKK	V-----	-----	-----	IFK*		419
huHAS	NGTSG--RKT	IVNVFIGL--	---IPVSVWF	TILLGGVIPT	IYKESKRPF		505
xlHAS	NGTSG--RKK	IVGNMYP--	---LPLSIWA	AVLCGGVGYS	IYMDCQNDWS		533

FIG. 2

09879959-051301

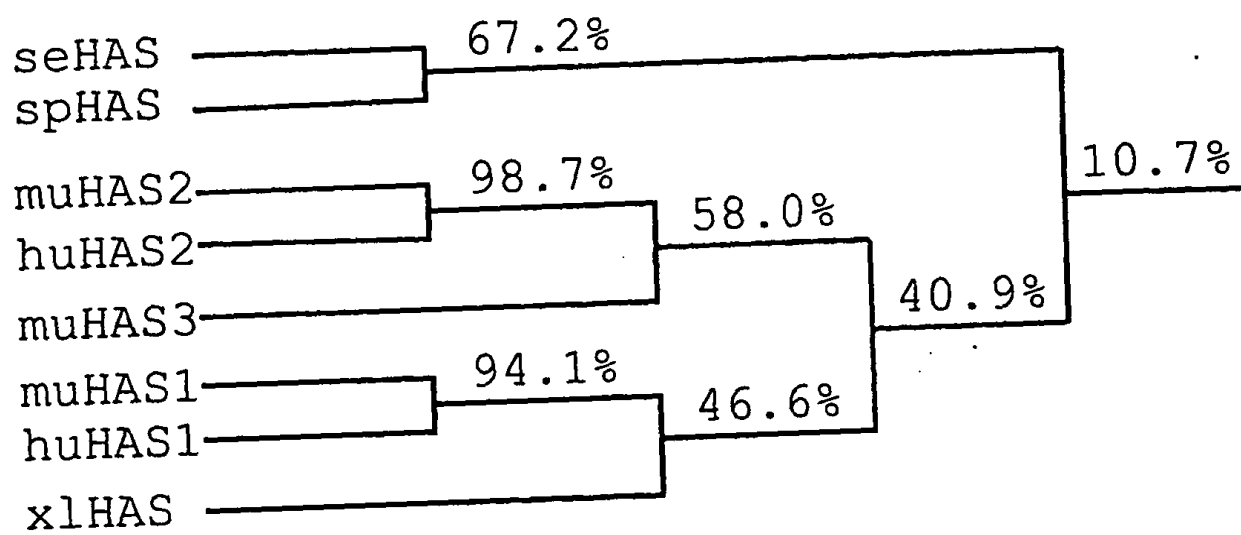


FIG. 3

SIZE DISTRIBUTION OF HYALURONAN
PRODUCED BY DIFFERENT ENGINEERED
STREPTOCOCCAL HAS ENZYMES

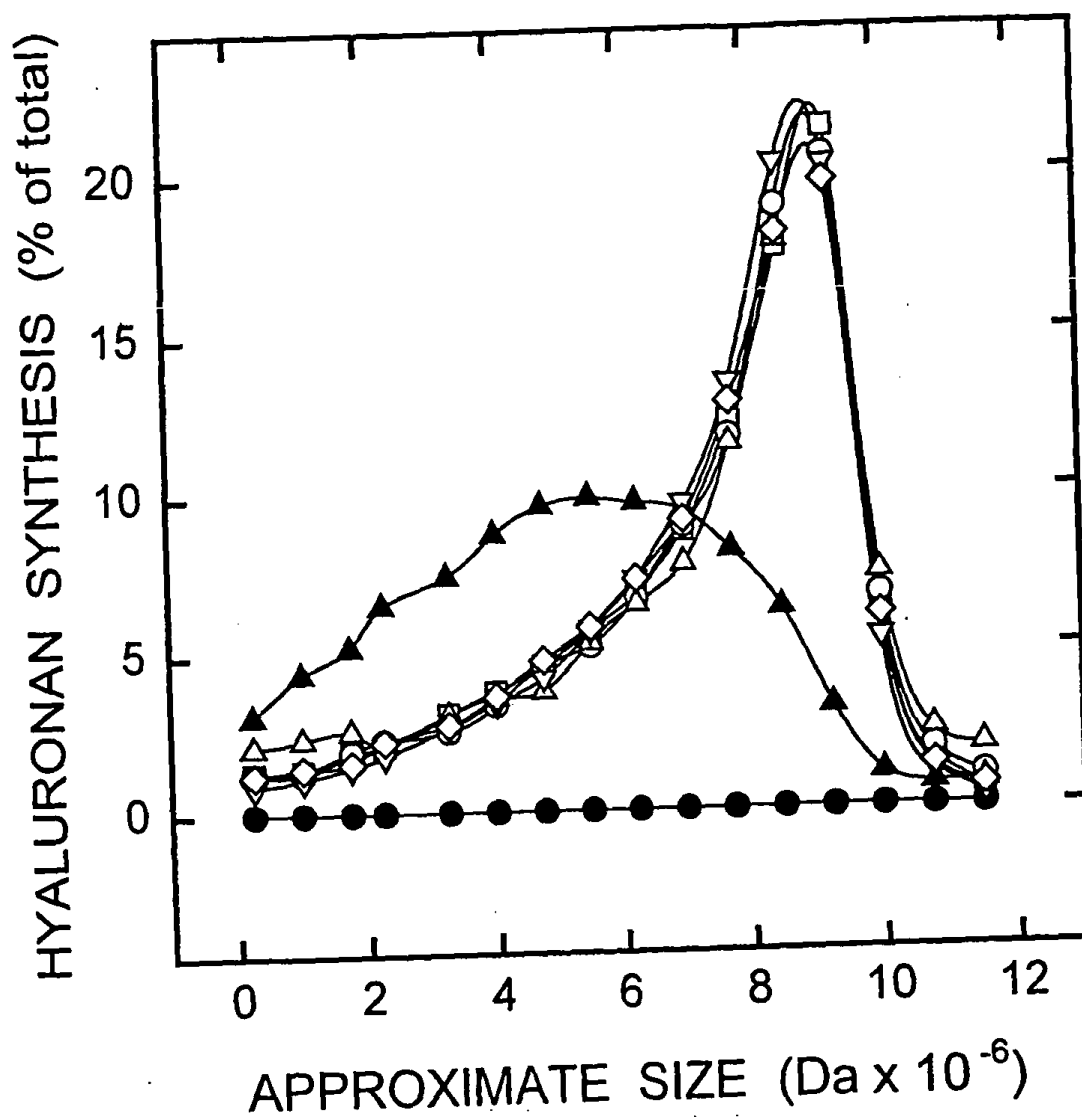


FIG. 4

0987959.061301
T0ET90" 65662860

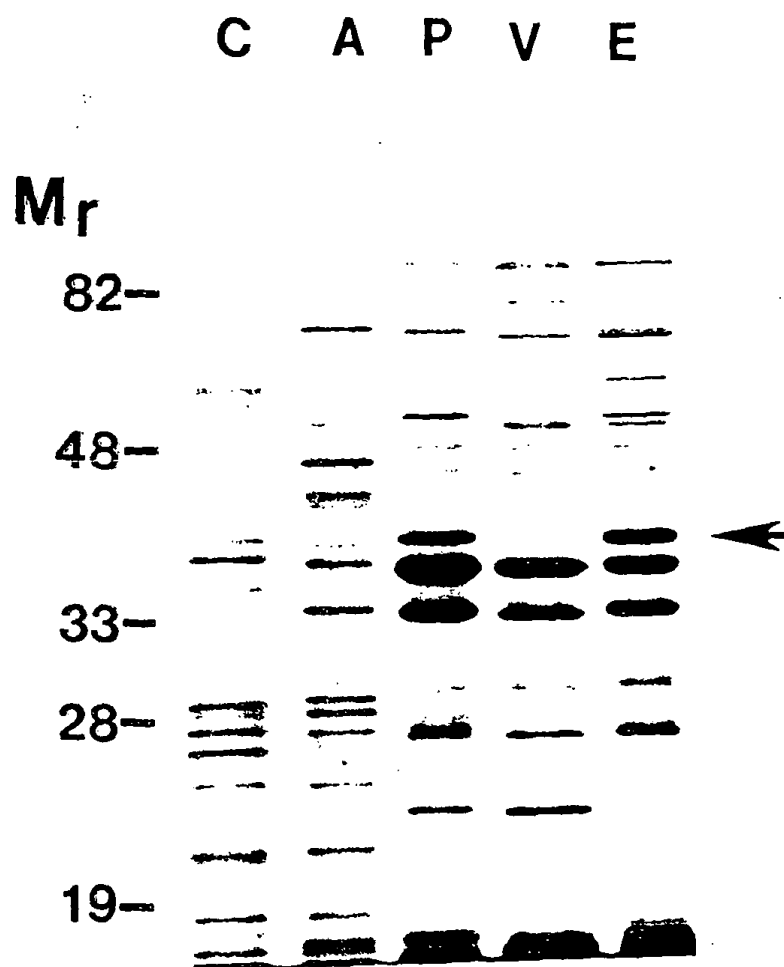


FIG. 5

FOET50" 6566/860

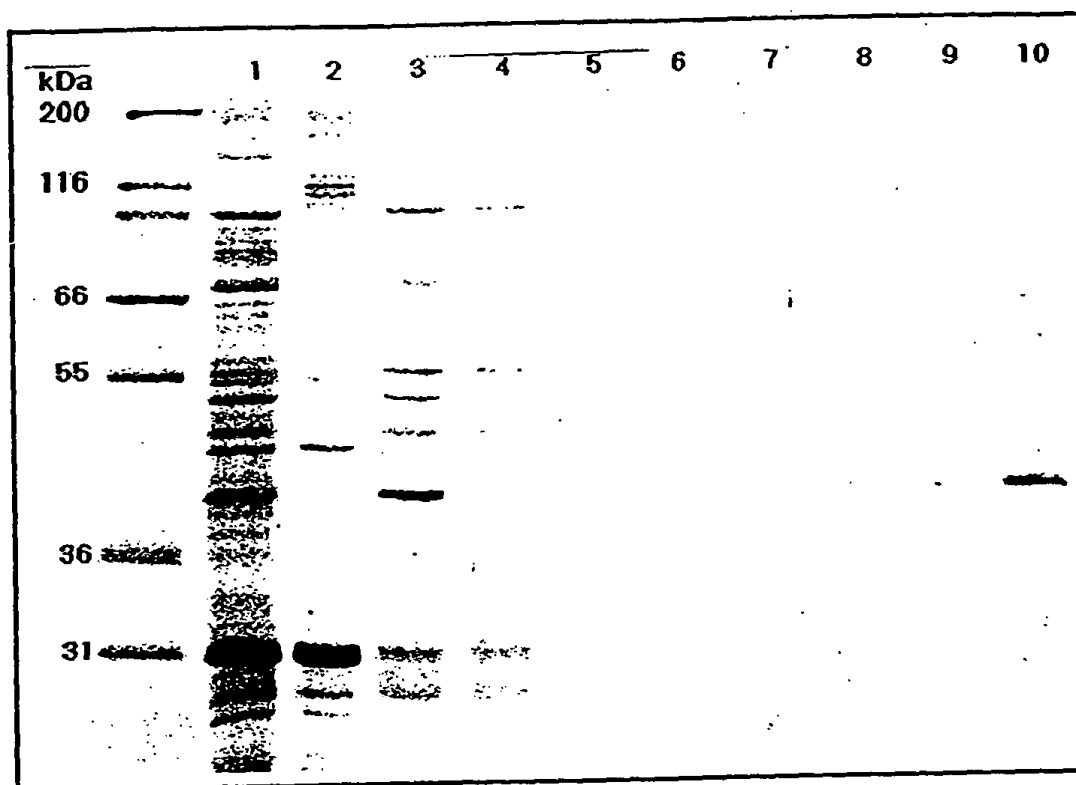


FIG. 6

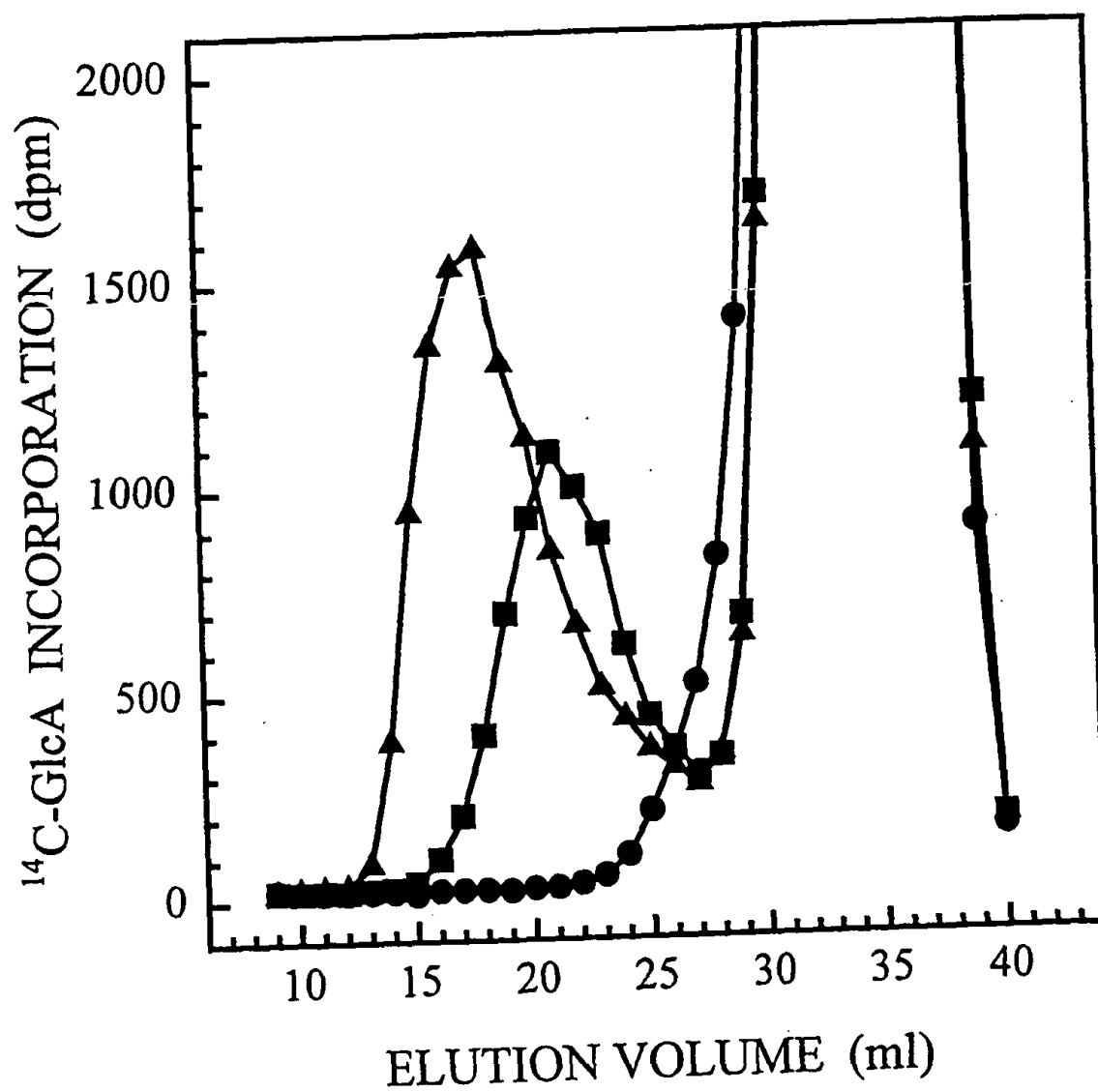


FIG. 7

09879959-061301
T0ET90-6566/860

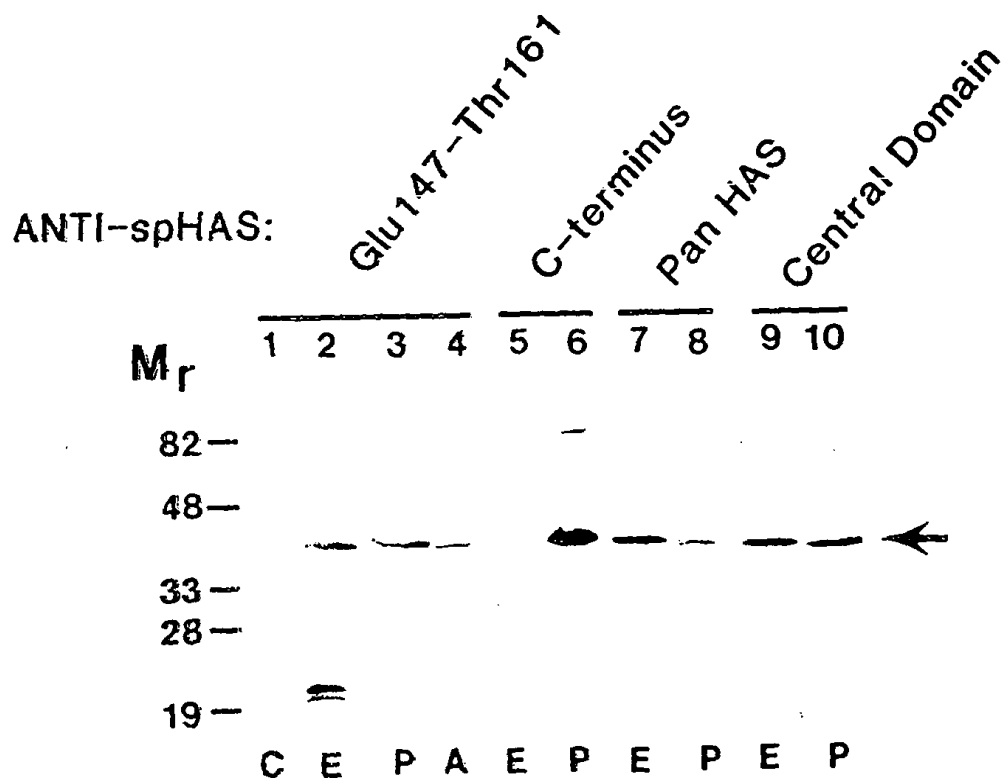


FIG. 8

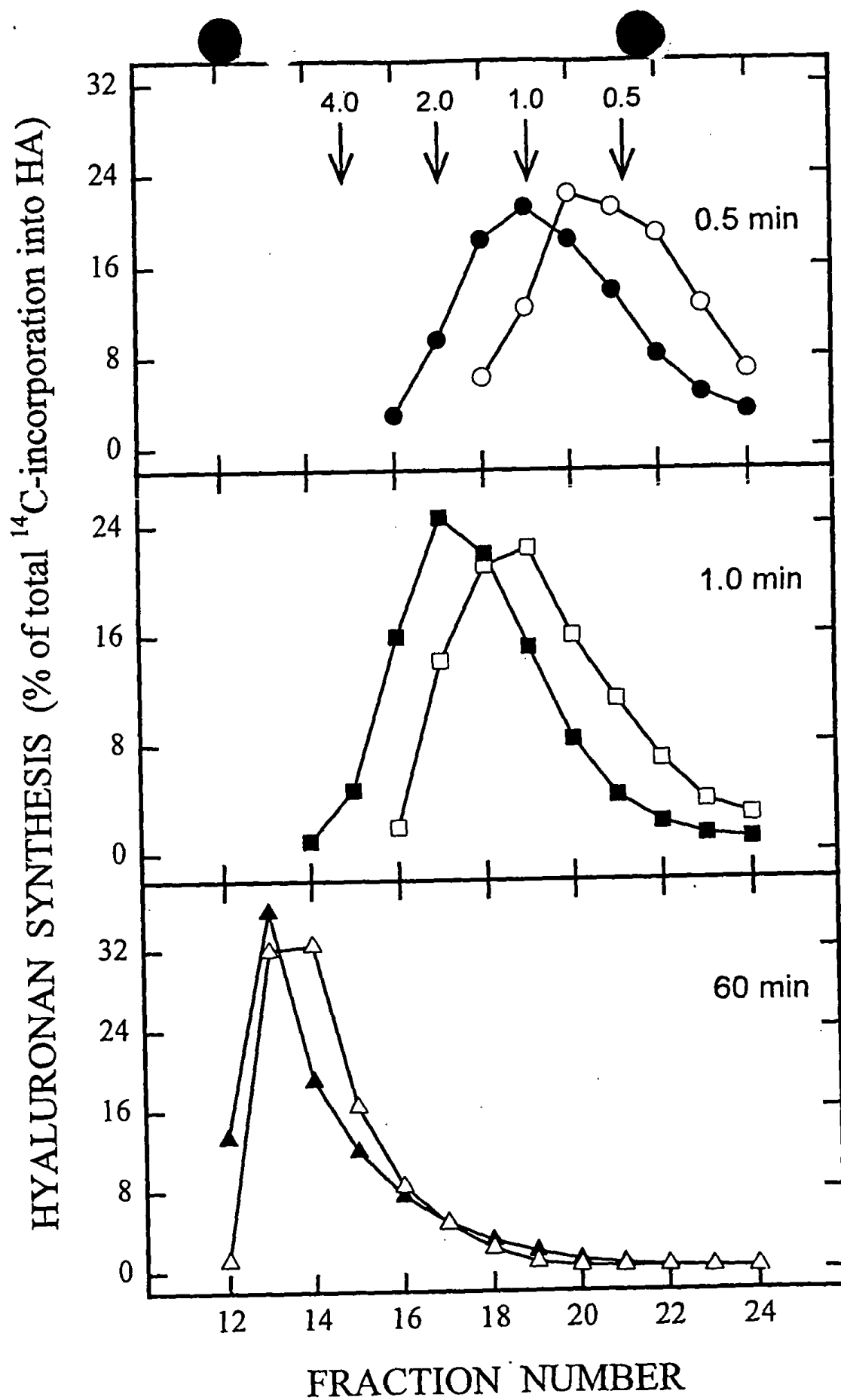


FIG. 9

FOET 90" 65662860

HYDROPHILICITY

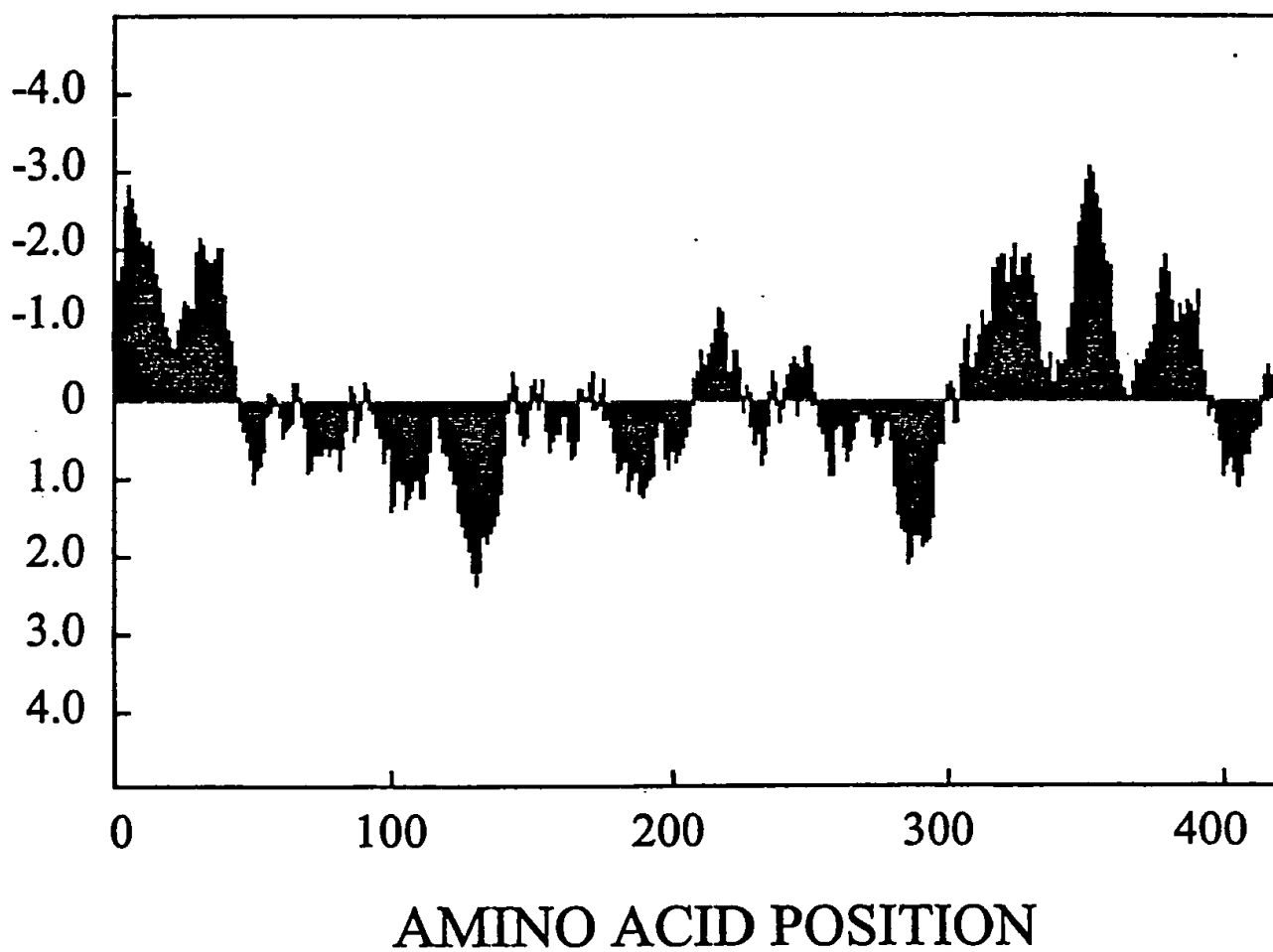


FIG. 10

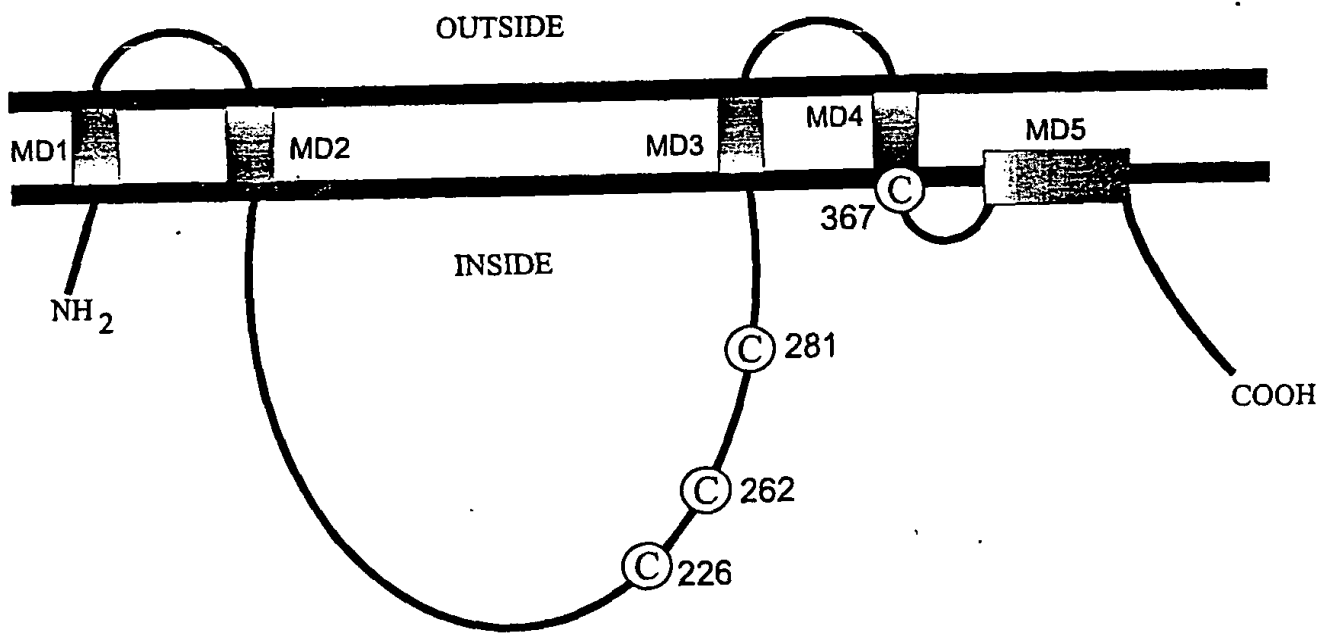


FIG. 11

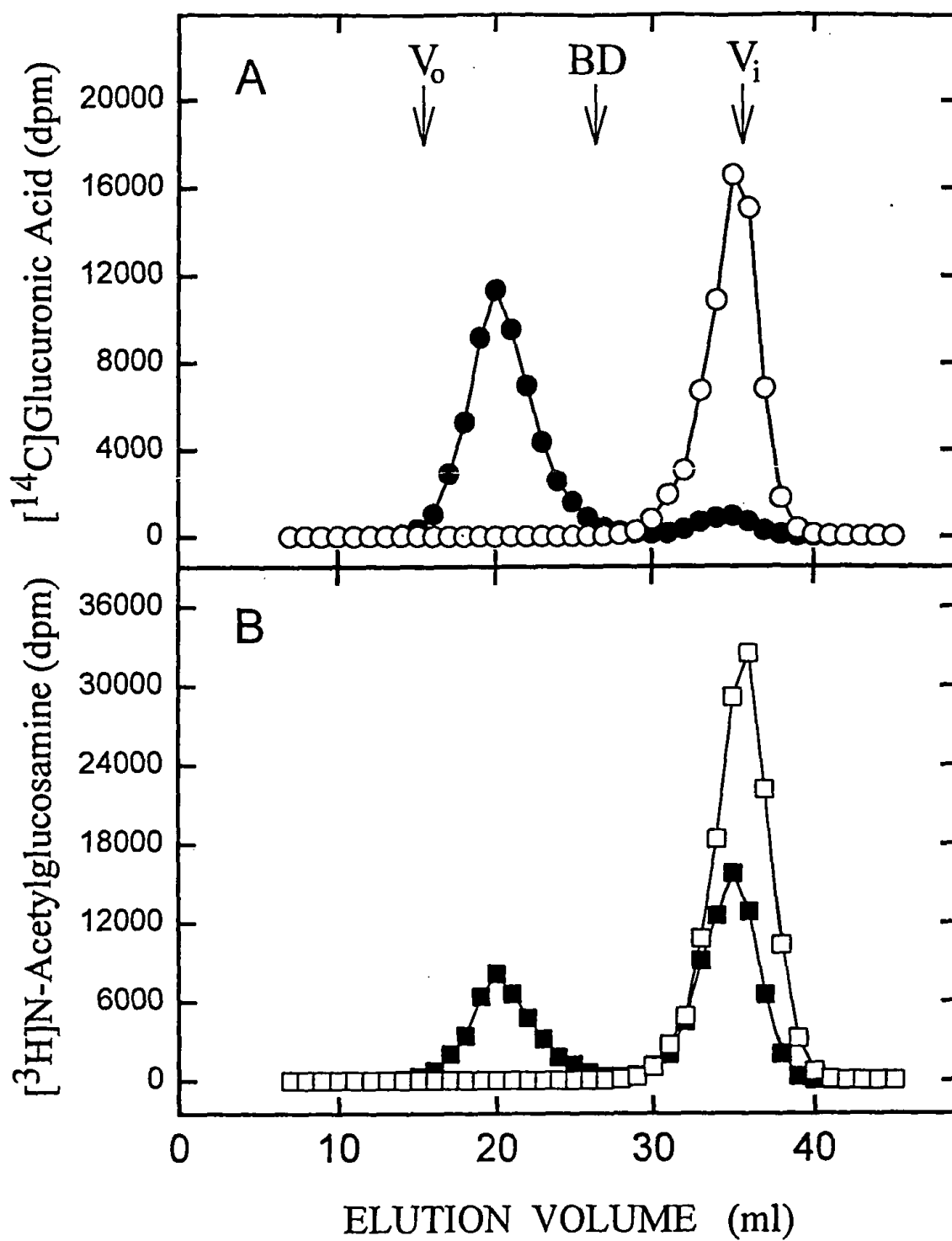


FIG. 12

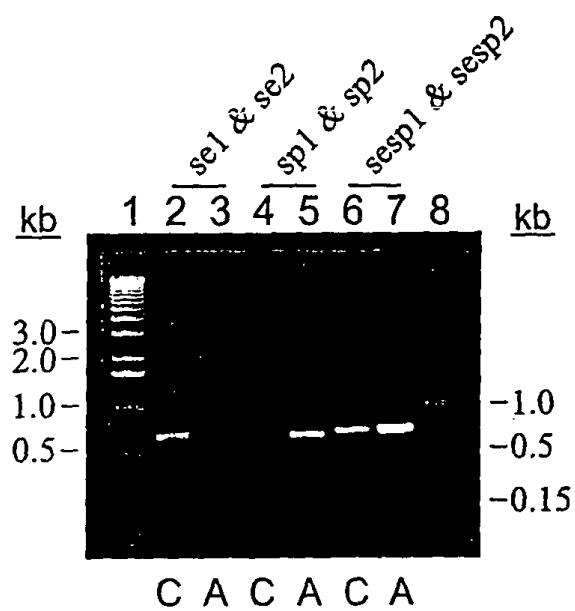


FIG. 13